

I claim:

1. A machine for removing articles such as debris and the like strewn on a tract of ground, comprising:

a wheel unit;

a support frame mounted on said wheel unit, having means for advancing said machine along said tract of ground;

an endless conveyor mounted on said support frame, having means for gathering articles deposited on said tract of ground and a flight extending from a front end disposed adjacent ground level, upwardly and rearwardly to an elevated rear end;

a receptacle mountable on said support frame, positioned to receive articles gathered by said gathering means, carried upwardly and rearwardly on said conveyor and discharged therein;

a moldboard disposed forwardly of a lower front end of said conveyor, pivotally connected to said support frame; and

means for driving said conveyor.

2. A machine according to claim 1 wherein said moldboard extends transversely.

3. A machine according to claim 1 wherein said moldboard is pivotal about a transverse axis.

4. A machine according to claim 1 wherein said moldboard is provided with a skid surface.

5. A machine according to claim 1 wherein said moldboard is provided with a set of ground engageable wheels.

6. A machine according to claim 1 wherein said moldboard is provided with a ground engageable end disposed on one side of its pivot axis and a counterweight end disposed on an opposite side of said pivot axis.

7. A machine according to claim 1 wherein said means for advancing said machine comprises a drawbar connected to said machine and connectable to a prime mover.

8. A machine according to claim 1 wherein said endless conveyor is perforated.

9. A machine according to claim 1 wherein said endless conveyor is of a chain link construction.

10. A machine according to claim 1 wherein said endless conveyor is provided with a set of tines engageable with articles deposited on the ground for gathering and conveying said particles to said receptacle.

11. A machine according to claim 10 including a set of tines supported on said support frame adjacent said receptacle and cooperable with said first mentioned set of tines to remove said articles therefrom and cause them to be discharged into said receptacle.

12. A machine according to claim 11 wherein said first mentioned set of tines comprises a plurality of longitudinally spaced transversely disposed rows of tines, and said second mentioned set of tines comprises a transversely disposed row of tines which function to comb articles out of said rows of first mentioned set of tines.

13. A machine according to claim 1 wherein said support frame includes at least one seating surface, and said receptacle comprises a removable bin which may be positioned on said seating surface.

14. A machine according to claim 13 wherein said bin is provided with an access opening disposable adjacent said second mentioned set of tines when positioned on said seating surface.

15. A machine according to claim 13 wherein said bin include a set of wheels and a hinged cover.

16. A machine according to claim 1 including a rotary brush supported on said support frame and cooperating with said upper flight of said conveyor.

17. A machine according to claim 16 wherein said endless conveyor is perforated and said brush cooperates with said upper flight to cause earth particles to be screened through said flight.

18. A machine according to claim 17 wherein said gathering means comprise a set of tines.

19. A machine according to claim 18 wherein said brush is rotatable about a transverse axis spaced from said upper flight a distance sufficient for said tines to pass through bristles of said brush.

20. A machine for removing articles such as debris and the like strewn on a tract of ground comprising:

a wheel unit;

a support frame mounted on said wheel unit, having means for advancing said machine along said tract of ground;

an endless conveyor mounted on said support frame including a lower, forwardly disposed roll having a transversely disposed axis, an upper, rearwardly disposed roll having a transversely disposed axis, an endless belt trained about said rolls, having means for gathering articles deposited on said tract of ground and a flight extending from a front end disposed adjacent ground level, upwardly and rearwardly to an elevated rear end;

a moldboard supported on said support frame, pivotal about the axis of said lower, forwardly disposed roll; and

means for driving said conveyor.

21. A machine according to claim 20 wherein said moldboard includes a skid surface engageable with the ground.

22. A machine according to claim 21 wherein said moldboard includes a curved surface displaced substantially radially relative to the pivot axis thereof.

23. A machine according to claim 21 wherein said moldboard includes a set of wheels engageable with the ground.

24. A machine according to claim 23 wherein said moldboard includes a curved surface displaced substantially radially relative to said pivot axis thereof.

25. A machine according to claim 20 wherein said moldboard includes a transverse section disposed forwardly of said lower, forwardly disposed roll, and a pair of radial arm sections disposed at the ends of said transverse section, supported on said support frame for pivotal movement about the axis of said lower, forwardly disposed roller.

26. A machine according to claim 25 wherein said transverse section includes a skid surface engageable with the ground.

27. A machine according to claim 26 wherein said transverse section includes a curved surface displaced substantially radially relative to the pivot axis of said moldboard.

28. A machine according to claim 25 wherein said transverse section includes a set of wheels engageable with the ground.

29. A machine according to claim 28 wherein said transverse section includes a curved surface disposed substantially radially relative to the pivot axis of said moldboard.

30. A machine according to claim 25 wherein each of said arm sections extends beyond the pivot axis of said moldboard and is provided with a counterweight thereon on a side thereof opposite the side of said transverse section, relative to said axis.

31. A machine according to claim 1 including means for detachably securing said moldboard at selected angular position relative to said pivot axis thereof.

32. A moldboard for a machine having a wheel unit, a support frame mounted on said wheel unit, means for advancing the machine along a tract of ground, a receptacle mounted on said support frame, an endless conveyor mounted on said support frame for gathering articles from the ground and conveying them to and discharging them into said receptacle, comprising:

a transverse section disposable forwardly of a lower front end of said conveyor; and

a pair of arm sections each rigidly connected at one end thereof to said transverse section and supportable at another end thereof on said support frame for pivotal movement about an axis of a lower, front roller of said conveyor.

33. A moldboard according to claim 32 wherein said transverse section is provided with a skid surface engageable with the ground.

34. A moldboard according to claim 32 wherein said transverse section is provided with a set of wheels engageable with the ground.

35. A moldboard according to claim 32 wherein said transverse section is provided with a curved surface displaced radially relative to said axis.

36. A moldboard according to claim 32 wherein each of said arm sections is provided with a portion which extends beyond said axis and is provided with a counterweight.

37. A moldboard according to claim 32 including means detachably connectable to said support frame for fixing the angularity of said moldboard to said support frame relative to said axis.

38. A moldboard according to claim 1 wherein said transverse section includes a curved rear plate, a bottom curved plate having a rear edge rigidly connected to a lower edge of said rear plate and an upper plate having opposed edges rigidly connect to said rear and bottom plates.

39. An assembly for a machine operable for gathering articles along a tract of ground, comprising:

an endless conveyor mountable on a support frame of said machine, having means for gathering articles disposed on the ground and a flight conveying such articles to a receptacle; and
a rotary brush supportable on said support frame cooperable with said flight for removing certain particles therefrom.

40. An assembly according to claim 39 wherein said conveyor is provided with a perforated belt and said rotary brush is operable to cause said particles to be sifted through said belt.

41. An assembly according to claim 39 wherein said conveyor includes an endless belt having a set of tines operable for extracting said articles from the ground.

42. An assembly according to claim 39 wherein the axis of rotation of said rotary brush is sufficiently spaced from said flight to permit the ends of the bristles thereof to skim the surface of said flight.

43. An assembly according to claim 39 wherein said conveyor is provided with a perforated belt and a set of tines operable to gather articles from the ground and convey them along said flight and the axis of rotation of said rotary brush is sufficiently spaced from said flight to permit the ends of the bristles thereof to skim the surface of said flight and said tines to pass through said bristles whereby said particles are caused to pass through said belt and thus be sifted out of the material being conveyed and the articles gathered by said tines are caused to pass through said bristles to be conveyed to and discharged with said receptacle.

44. An assembly according to claim 41 wherein said tines are arranged in rows spaced longitudinally and disposed transversely on said belt.

45. An assembly according to claim 39 including a pair of arm members pivotally supported on said support frame, and wherein said rotary brush is mounted on a shaft journaled in said arm members whereby said rotary brush may be displaced relative to said flight to permit articles incapable of passing through the bristles thereof to displace said brush and pass thereby.

46. A machine for gathering articles strewn on a tract of ground and depositing them in a receptacle having a bottom wall, at least one side wall and an open upper end, comprising:

a wheel unit;

a support frame mounted on said wheel unit, having seating surfaces for supporting said receptacle with said upper end thereof opening upwardly and forwardly;

means for advancing said machine along said tract of ground;

an endless conveyor mounted on said support frame having a flight extending from a lower front end disposed adjacent ground level to an upper rear end disposed adjacent the level of a receptacle supported on said seating surfaces, and means disposed thereon for taking up articles strewn on the ground and conveying them upwardly and rearwardly and discharging them into a receptacle supported on said seating surfaces; and

means for operating said conveyor.

47. A machine according to claim 46 wherein said support frame includes means engageable by a lid of a receptacle supported on said seating surfaces, hinged to a side wall thereof, capable of functioning as a baffle to guide detached articles displaced upwardly and rearwardly by said conveyor into the opening of a receptacle supported on said support surfaces.

48. A system for collecting trash comprising:

a plurality of receptacles each having a bottom wall upon which it may be supported on the ground, at least one side wall and an upper opening; and

a machine having a wheel unit, a support frame mounted on said wheel unit having seating surfaces for removably supporting at least one of said receptacles with the upper end thereof opening upwardly and forwardly, means for advancing said machine along a tract of ground strewn with trash, an endless conveyor mounted on said support frame having a flight extending from a lower front end disposed adjacent ground level to an upper rear end disposed adjacent the level of a receptacle supported on said seating surfaces, and means disposed thereon for gathering trash strewn on the ground and conveying them upwardly and rearwardly and discharging them into a receptacle supported on said seating surfaces, and means for operating said conveyor.